Restricted Circultation

This paper is not an official document; it is for information only and reference cannot be made to it in any printed publication without the permission of the author.

Agricultural Memorandum No. 468

Expectancy of Heavy Winter Rainfall - NORTHWEST ENGLAND

L P SMITH

Long term records of 31 rainfall stations in the northwest were examined to determine the probable heaviest falls in 1 year, 2 years, 10 years over 1 and 5 days. Rainfall in millimeters. Period November to April.

Results.

County	No. of Stations	Mean Annual Rainfall	Heaviest falls in 1 day			Heaviest falls in 5 days		
			1 year	2 years	10 years	1 year	2 years	10 years
N. Lancashire	10	1182	28.7	33.7	45.6	59.7	68.7	86.9
S. Lancashire	10	985	24.9	29.5	37.4	51.2	60.7	74.4
Westmoreland	6	1304	32.8	39.3	51.3	68.3	79.5	100.8
Cumberland	5	939	23.2	28.2	37.8	48.2	56.4	72.4

Combining and re-analysing

Rainfall Range	No. of Stations	Mean Annual Rainfall	Heaviest falls in 1 day			Heaviest falls in 5 days		
			1 year	2 years	10 years	1 year	2 years	10 years
800- 900	7	837	21.7	25.7	33.1	42.9	51.1	64.3
900-1000	4	958	24.5	29.3	38.5	50.5	60.3	74.5
1000-1100	3	1042	25.3	30.7	39.0	53.7	63.0	77.3
1100-1200	5	1166	28.0	32.6	44.6	58.8	68.2	86.2
1250-1300	6	1233	29.8	35.0	47.5	61.7	71.3	90.8
Above 1300	6	1356	34.0	41.2	52.7	71.0	82.5	104.0

These results can be smoothed for the area as a whole; County corrections can be used to allow for regional differences.

Average Annual Rainfall	Heaviest falls in 1 day			Heaviest falls in 1 day		
	1 year	2 years	10 years	1 year	2 years	10 years
800	20.4	24.4	31.5	41.2	49.6	61.0
850	21.5	25.7	33.4	43.7	52.4	64.7
900	22.7	27.1	35.2	46.3	55.1	68.3
950	23.8	28.4	37.1	48.9	57.9	72.0
1000	24.9	29.8	38.9	51.4	60.6	75.6
1050	26.1	31.1	40.8	53.9	63.4	79.3
1100	27.3	32.5	42.6	56.5	66.1	82.9
County Corrections						
N. Lancs	-0.4	-1.0	0	-1.0	-1.9	-2.0
S. Lancs	+0.3	+0.1	-0.9	+0.6	+0.9	-0.1
Westmoreland	+0.8	+1.3	+1.2	+1.4	+2.2	+3.0
Cumberland	-0.5	+0.1	+1.1	-0.1	-0.9	+1.2

Any comments or suggestions on this paper should be referred to the author.

Meteorological Office
Bracknell
EB/6/72/60